

the material by centrifugal force, removing the lighter dust with the air current, and finally purifying the dust-laden air, substantially as described. 2nd. The combination of a casing having air inlet and exit at opposite ends, devices for producing a spiral movement of the air within the casing, a cut-off inside of the casing, and a feed for delivering the material into the air current, substantially as described. 3rd. The combination of a casing having an inlet and exit at opposite ends, a partially closed bottom, a fan near the lower end, an open top, a feed for delivering the material into air current in the casing and cut-off in the side of the casing, substantially as described. 4th. The combination of a tapering casing having an inlet and exit, a partially closed bottom, a fan near the bottom having an imperforate top extending to near the side of the casing, an open top for the casing, and a feed for delivering the material into the casing, substantially as described. 5th. The combination of a tapering casing having air inlet and exit, an annular bottom, an open top, a fan above the bottom, a covering for the fan, and central feed tube for delivering the material upon the fan covering, substantially as described. 6th. In a centrifugal separator, having exit and inlet at opposite ends of the separator casing, and devices for producing a spiral movement of the air from the inlet to the exit, a diaphragm serving to form a restricted air passage around the wall of the separator chamber, and a feed for delivering the material into or across this passage. 7th. In a centrifugal separator having inlet and exit at opposite ends of the separator casing, and devices for producing a spiral movement of the air from the inlet to the exit, a diaphragm serving to form a restricted air passage around the wall of the separator chamber, a feed for delivering the material into or across this passage, and a fan for drawing the dust-laden air from the exit of the separator casing. 8th. In a centrifugal separator, having inlet and exit at opposite ends of the separator casing, and devices for producing a spiral movement of the air from the inlet to the exit, a diaphragm serving to form a restricted air passage around the wall of the separator chamber, a feed for delivering the material into or across this passage, and a fan having its suction side connected to the exit from the separating casing and its discharge to the dust collector. 9th. The combination with a centrifugal separator casing, of a fan having its suction side connected to the exit therefrom, substantially as described. 10th. The combination with a centrifugal separator casing, devices for forming a spiral circulation of the air under pressure through the casing, and a fan having its suction side connected to the exit therefrom. 11th. The combination with a centrifugal separator casing, a diaphragm therein forming an annular air passage near the inlet end thereof, a fan below said diaphragm, a fan having its suction side connected to the exit from the separator casing, and feed above the diaphragm, substantially as described. 12th. The combination of the tapering casing, having a free exit at the small end, of a ring-shaped bottom, a diaphragm above the bottom and a fan between, a feed above the diaphragm and discharge apertures through the ring-shaped bottom, substantially as described. 13th. In a centrifugal separator of the kind described, the ring-shaped bottom, and the tangential feed grooves C' therein, substantially as described. 14th. In a centrifugal separator of the kind described, the ring-shaped bottom B', the ring B², extending inwardly from the ring B', on top thereof, and the grooves B³ in the ring B', discharging under the ring B², substantially as described. 15th. The combination with a centrifugal separator, substantially as described, a dust collector, and a trunk forming a free exit from the separator chamber leading to the dust collector, substantially as described. 16th. The combination of a centrifugal separator having air inlet and exit at opposite ends, devices for producing a spiral movement of the air from the inlet to the outlet, and a fan having its suction side connected to the said outlet, and its discharge side to a dust collector, substantially as described. 17th. The combination of a centrifugal separator, having air inlet and exit at opposite ends, devices for producing a spiral movement of the air from the inlet to the outlet, a fan having its suction side connected to the outlet and its discharge to a dust collector, and a trunk connecting the inlet to the separator chamber with the purified air chamber of the dust collector, substantially as described. 18th. In a centrifugal separator of the kind described, devices for imparting a spiral movement of the air through a tapering casing, of a cut-off in the casing, and gates adapted to adjust the size or height of the cut-off opening, substantially as described.

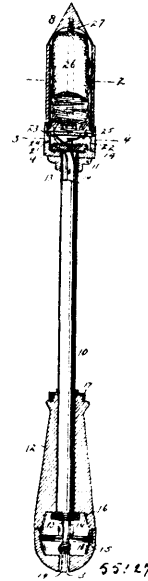
No. 55,127. Electric Soldering Iron.

(Machine électrique à souder.)

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Claim.—1st. In an electrically heated soldering iron adapted to receive current carrying conductors and having a hollow soldering head, the combination of a heating core enclosed within the latter, consisting substantially of layers of wire of high resistance, forming part of the current carrying circuit supported and inclosed by a heat absorbing and conveying mass consisting substantially of calcined powdered soapstone with a small percentage of lamp-black held together by a suitable binder in which mass the resistance wire is embedded while in its plastic state, said mass also supporting the individual layers or bights of the wire in position with reference to the

adjoining ones and insulating them from each other. 2nd. In an electrically heated soldering iron adapted to receive current carry-



ing conductors and having a hollow head, the combination of an iron heat transmitting core 27 affixed centrally within the interior of the head, back of the point and with its other free end extending inwardly a hollow heating core 26, consisting substantially of insulating layers of wire of high resistance which form a part of the current carrying circuit, said heating core occupying the interior of the hollow soldering head and surrounding loosely the iron core 27, with an air space between them. 3rd. In an electrically heated soldering iron, the combination of a removable hollow soldering head, a heating core for it consisting substantially of insulated layers of wire of high resistance, formed out of one continuous piece, the ends of which protrude at the open end of the soldering head where they are provided with contact pieces, a hollow shank 10, adapted to receive the soldering head and carrying current conveying wires, the ends of which protrude at the open end of the shank where they are also provided with contact pieces, all of which latter are so placed with reference to each other, that when the head is connected to the shank, these contact pieces meet and establish a complete electrical circuit. 4th. In an electrically heated soldering iron, the combination of shank 10, adapted to receive a soldering head and carrying wires forming electrical conductors, the end of which protrude out the hollow shank, a disc 19, of insulating material thereat through which these protruding wire ends pass, a ring 21 and a central plug 22, both forming conductors embedded in disc 19, and to each of which one of the wire ends connects, a hollow soldering head adapted to be connected to shank 10, a heating core within it, consisting substantially of insulated wire of high resistance, a disc 23 of insulating material which receives the ends of the resistance wire which pass therethrough, tongues 24, 25 forming conductors to which said ends connect, said tongues secured to disc 23 in a position that when this latter is brought opposite disc 19, during the connection of the head to the shank, one of them will come in contact with ring 21 while the other tongue comes in contact with plug 22, whereby the electrical circuit through the tool is completed. 5th. In an electrically heated soldering iron, the combination of a hollow soldering head, a heating core therein consisting substantially of insulated wire of high resistance, the ends of which terminate at the open end of the soldering head where they are provided with contact pieces, a hollow shank 10, provided with a screw-threaded socket 9, which is adapted to receive the soldering head, current carrying conductors passing through the hollow shank, their ends terminating in socket 9, where they are provided with contact pieces, all of these latter so placed, that when the soldering head is screwed into socket 9, they complete the electrical circuit. 6th. In an electrically heated soldering iron, the combination of a soldering head, provided with a heating core, a hollow shank with a hollow handle thereon, a removable perforated cap 15, on the end of the latter, current carrying-wires passing through shank and handle, knotted at 18, within the latter, such knot being larger than the perforation through cap 15, to prevent exterior strains on the wires from being transmitted to their interior connections. 7th. In an electrically heated soldering iron, the combination of a soldering head, a heating core for it, a hollow shank carrying electric conductors and provided with a shoulder 17, a hollow handle on the shank, a nut 16 on the latter and within the hollow part of the handle whereby this latter in conjunction with shoulder 17 is held and confined in position on the shank. 8th. In combination with an electrically heated soldering iron, having a soldering head with a heating core for it and a hollow shank and handle, a solder-supply-